



(2 of 2)

PTO/SB/03A (10-01)

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 1 of 7

**Complete if Known**

Application Number	09/734,953
Filing Date	December 11, 2000
First Named Inventor	Bruce M. Schena
Art Unit	2672
Examiner Name	Jeffery A. Brier
Attorney Docket Number	IMMR036/01US

**U.S. PATENT DOCUMENTS**

Examiner	Cite No.	Document Number Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		5,799,108	08/1998	Salcedean et al.	
		5,823,842	04/1997	Katz et al.	
		5,891,924	09/1997	Hilton	
		5,889,828	12/1996	Armstrong	
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		5,570,111	10/1996	Barrett et al.	
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		5,429,140	07/1995	Burdea et al.	
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Sheet **2** of **7****Complete if Known**

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		5,280,623	07/1993	Guthrie et al.	
		5,209,131	05/1993	Baxter	
		5,204,624	04/1993	Fujimaki	
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		4,907,970	03/1990	Meenen, Jr.	

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Sheet

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		4,891,889	01/1990	Tomeserl	
		4,888,877	12/1989	Enderle et al.	
		4,849,692	07/1989	Blood	
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		4,803,413	02/1989	Kendig et al.	
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		3,944,798	03/1976	Eaton	
		3,890,938	06/1975	Fister et al.	

Examiner Signature	<i>Jeffery A. Brier</i>	Date Considered	3/21/06
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**INFORMATION DISCLOSURE  
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Sheet **4** of **7****Complete if Known**

Application Number	09/734,953
Filing Date	December 11, 2000
First Named Inventor	Bruce M. Schena
Art Unit	2672
Examiner Name	Jeffery A. Brier
Attorney Docket Number	IMMR036/01US

**U.S. PATENT DOCUMENTS**

Examiner	Cite No. <sup>1</sup>	Document Number Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		3,875,488	04/1975	Crocker et al.	
		3,795,450	03/1974	Eckhardt	
		3,531,868	10/1970	Stevenson	
		3,490,059	01/1970	Paulsen et al.	
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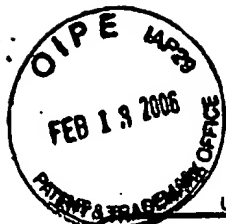
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)			
		JP	4-34810		05/1990		
		WIPO	WO/95/02733		01/1995		
		WIPO	WO/95/20787		08/1995		
		WIPO	WO/95/32459		11/1995		
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		WIPO	WO/96/42078		12/1996		
		WIPO	WO/97/12357		04/1997		
		WIPO	WO/97/19440		05/1997		
		UK	2254911		10/1992		
		WIPO	WO/95/02801		01/1995		
		WIPO	WO/96/22591		07/1996		

Examiner  
Signature*Jeffery A. Brier*Date  
Considered*3/21/06*

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	09/734,953
		Filing Date	December 11, 2000
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		Examiner Name	Jeffery A. Brier
		Attorney Docket Number	IMMR036/01US
Sheet	5	of	7

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
JB		WINEY III, "Computer Simulated Visual and Tactile Feedback as an Aid to Manipulator and Vehicle control", Massachusetts Institute of Technology, 1981.	
JB		TAN, HONG Z., "Human Factors for the Design of Force-Reflecting Haptic Interfaces", Tan, Srinivasan, Eberman, & Cheng, ASME WAM '94.	
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JB		SMITH, GEOFFREY, "Call It Palpable Progress," Business Week, Oct. 9, 1995, pp. 93, 96.	
JB		SLOCUM, ALEXANDER, H., "Precision Machine Design", Massachusetts Institute of Technology. Prentice Hall, Englewood Cliffs, New Jersey, 07832.	
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JB		ROSENBERG, LOUIS B., "Virtual fixtures as tools to enhance operator performance in telepresence environments", Stanford University, Center for Design Research, Stanford, CA 94305, SPIE Telemanipulator Technology, 1993.	
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JB		MINSKY, M. et al., "Feeling and Seeing: Issues in Force Display," ACM 089791-351-5, 1990, pp. 235-245, 270.	
JB		MEYER, KENNETH et al., "A Survey of Position Trackers," The Massachusetts Institute of Technology 1992, Presence, vol. 1, No. 2.	
JB		KRUEGER, MYRON W., Artificial Reality 1988, pp. 54-75.	

Examiner Signature	<i>Jeffery A. Brier</i>	Date Considered	3/21/06
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Sheet 6

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### OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

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JB		KOTOKU, TETSUO et al., "Environment Modeling for the Interactive Display (EMID) Used In Telerobotic Systems," IEEE Nov. 3-5, 1991, pp. 99-1004.
JB		KOTOKU, T., "A Predictive Display with Force Feedback and its Application to Remote Manipulation System with Transmission Time Delay," Proc. of 1992 IEEE/RSI Int'l Conf. Intelligent Robots and Systems, IEEE 0-7803-0737-2, 1992, pp. 239-248
JB		KIM, WON S. et al., "Graphics Displays for Operator Aid in Telemanipulation," IEEE 1991, pp. 1059-1067.
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JB		FISHER, S.S. et al., "Virtual Environment Display System," ACM Interactive 3D Graphics, Oct. 1988.
JB		BUTTOLO, PIETRO, "Hard Disk Actuators for Mini Teloperation", Proceedings SPIE, Telemanipulator and Telepresence Technologies, Symposium, pp. 55-61, Boston, Oct. 31, 1994.
JB		BURDEA, GRIGORE et al., "A Portable Dextrous Master with Force Feedback," Presence: Teleoperators and Virtual Environments, MIT Press, Jun. 1991.
JB		3D Human Interface Tool, Immersion Probe™, Immersion Human Interface Corporation 1994.
JB		"Useful Technology for Your Idea File," Design News, Mar. 7, 1994, pp. 63.
JB		"The Personal Digitizer™," Immersion Human Interface Corporation 1994.
JB		"Proceedings of the IFIP Congress 65," International Federation for Information Processing, Information Processing 1965, vol. 3, New York, May 24-29, 1965, pp. 506
JB		"High Performance Model of the Immersion Probe," Immersion Probe-MD.TM., Immersion Human Interface Corporation.

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### OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

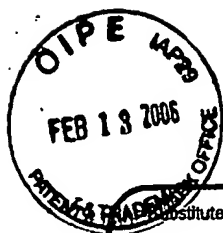
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
JB		"Foot-Operated Mouse," IBM Technical Disclosure Bulletin, Apr. 1986, vol. 28, No. 11.

Examiner Signature	<i>Jeffery A. Brier</i>	Date Considered	3/21/06
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Sheet 1 of 3

## Complete if Known

Application Number	09/734,953
Filing Date	December 11, 2000
First Named Inventor	Bruce M. Schena
Art Unit	2672
Examiner Name	Jeffery A. Brier
Attorney Docket Number	IMMR036/01US

## U.S. PATENT DOCUMENTS

Examiner	Cite No.	Document Number Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		6,422,841	7/23/2002	Thomer et al.	
		6,160,489	12/12/2000	Perry et al.	
		6,111,577	8/24/2000	Ziles et al.	
		5,699,582	11/25/1997	Ulrich et al.	
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		5,437,607	8/1/1995	Taylor	
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		4,127,752	11/28/1978	Lowthorp	
		2,972,140	2/14/1961	Hirsch	

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Sheet 2 of 3

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Art Unit	2672
Examiner Name	Jeffery A. Brier
Attorney Docket Number	IMMR036/01US

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
JB		PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," <i>Master of Science Thesis</i> , MIT, Aug. 1990, archived Nov. 8, 1990.
JB		CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," <i>Bachelor of Science Thesis</i> , MIT, May 1983, archived June 23, 1983.
JB		WIKER, "Teletouch Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.
JB		BLISS, "Optical-to-Tactile Image Conversion for the Blind," <i>IEEE Transactions on Man-Machine Systems</i> , Vol. MMS-11, No. 1, March 1970.
JB		JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," <i>Armstrong Aerospace Medical Research Laboratory</i> , AAMRL-TR-90-039, August, 1990.
JB		KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," <i>PRESENCE</i> , 4(4):387-402, Harvard Univ., 1995.
JB		AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.
JB		EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," <i>DSC-Vol. 55-1, Dynamic Systems and Control</i> , Volume 1, ASME 1994.
JB		GOBEL et al., "Tactile Feedback Applied to Computer Mice," <i>International Journal of Human-Computer Interaction</i> , Vol. 7, No. 1, pp. 1-24, 1995.
JB		PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 <sup>nd</sup> Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.
JB		"Cyberman Technical Specification," <i>Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide</i> , 4/5/1994.
JB		OUIYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," <i>Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95</i> , Seoul, Korea, 21-24 August 1995.
JB		KACZMAREK et al., "Tactile Displays," <i>Virtual Environment Technologies</i> , Chap. 9, pp. 349-414.
JB		LAKE, "Cyberman from Logitech," at <a href="http://www.ibiblio.org/GameBytes/Issue21/greviews/cyberman.html">http://www.ibiblio.org/GameBytes/Issue21/greviews/cyberman.html</a> , 1994.
JB		YAMAKITA et al., "Tele-Virtual Reality of Dynamic Mechanical Model," <i>Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems</i> , Raleigh, NC, July 7-10, 1992.

Examiner  
Signature

Jeffery A. Brier

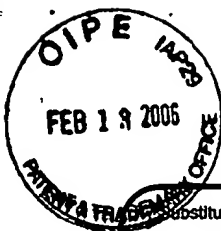
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet **3** of **3**

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JB		NOLL, "Man-Machine Tactile," <i>SID Journal</i> , July/August 1972 Issue.
JB		ROSENBERG, "Virtual Fixtures: Perceptual Overlays Enhance Operator Performance in Telepresence Tasks," <i>Ph.D. Dissertation</i> , Stanford University, June 1994.

Examiner Signature	<i>Jeffery A. Brier</i>	Date Considered	3/21/06
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